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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,320	07/02/2003	Michael Bothe	041165-9052	4065

23409 7590 09/22/2005

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EXAMINER
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BENENSON, BORIS

ART UNIT	PAPER NUMBER
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2836

DATE MAILED: 09/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/612,320	BOTHE ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Boris Benenson	2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 25 August 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,3,6-10,12 and 15-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,6-10,12 and 15-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>10/20/03, 10/16/03</u>  | 6) <input type="checkbox"/> Other: _____                                    |

***Detailed Actions***

1. Amendment received on 8/25/2005 is entered.  
Claims 1 and 10 are amended. Claims 1, 3, 6-10, 12 and 15-18 are pending in the Application. Previously indicated rejection of Claims 1 and 10 under 35 USC § 112 is withdrawn.

***Response to the arguments***

2. Applicants argue that Ho (US Patent Application US 2003/0102947 filed 12/05/2001, published 06/05/2003) does not disclose all elements of amended independent Claim 1 and that Kalsi et al. (6,275,365) as well as Kalsi et al. (6,275,365), Kropielicki et al. (5,835,066) and Lace (5,391,831) do not disclose all elements of amended independent Claim 1. Examiner agrees with such argument, but rejection is based not on a single prior art, but on combination of teachings from different patent and publications.

3. Applicants argue that there are no suggestion or motivation to combine Ho and Kalsi and they are belonging to different art. Examiner strongly disagrees with such argument. Both of prior art address current limiting and a fact that Kalsi et al deal with current limiting in power plant applications and Applicants

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deal with a power supply circuit they are dealing with the same art of current limiting.

4. Applicants argue that there is a need to determine electrical characteristics of combination of Ho and Kalsi, because a bifilar coil of Kalsi will be placed on a ferromagnetic core of Ho and that " the stack of bifilar pancake coils of Kalsi is quite different than the winding configuration of Ho". Examiner didn't suggest using a bifilar coil of Kalsi on a ferromagnetic core of Ho, but suggests replacement of multilayer coil of Ho with bifilar coil according to Kalsi. A ferromagnetic core is not a part of claim limitations and therefore was not addressed.

The argument is not persuasive.

5. Applicants argue that Lace does not teach bifilar windings from copper wire in single layer around a coil form, but teaches an electromagnetic pickup for guitar with a high signal-to-noise ratio is also correct. The reference Lace (5,391,831) teaches a plastic coil form onto the windings is applied, as it is required by claim language. Similarly Kropielicki et al. do not teach a plastic coil form, but teach a bifilar coil made from copper wire, as it is required by claim language.

Applicants' arguments are not persuasive.

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***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim includes a limitation "a wire having a circular cross-section", which could be found in the disclosure.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at

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the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 8-9, 10, and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ho (US Patent Application US 2003/0102947 filed 12/05/2001, published 06/05/2003) in view of Kalsi et al. (6,275,365), Kropielicki et al. (5,835,066), Lace (5,391,831) and Kawakami (5,986,374). Ho discloses (as a Prior Art) a circuit (Figure 1) for converting an AC source into DC one comprising an inrush current limiter (50) and a fusible link (60) connected with an AC input source. Ho disclosed a circuit wherein one element provides function of the fusible link (interruption function), the inrush current limiter and an EMC choke that achieved by installing an electrically conductive winding - resistance multiplayer coil (Fig.3, Pos.2) substituting elements (50 and 60) of the Prior Art. Coil comprises two coils (21) with a smaller number of turns and coil (22) with a larger number of coils. Ho didn't disclose a bifilar winding of the coil. Kalsi et al. teach a Resistive Fault Current Limiter. The Current Limiter employs bifilar coils. Kalsi et al. teach "In essence, this parallel, bifilar winding approach provides a low inductance with a configuration (i.e., coil, solenoid) commonly associated with providing high inductance"(Col. 5, Lines 36-39), therefore replacement of the

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multilayer coil (2) of Ho with a bifilar winding coil will eliminate the EMC choke, and multilayer coil (2) will be a low inductance resistive winding. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified circuit of Ho with teachings of Kalsi et al. and use bifilar coil (with equal numbers of turns made in opposite directions), because it reduces power supply noise by reducing inductance of power supply wiring, that may be critical in some applications.

Neither Ho nor Kalsi et al. disclose a material from which a coil form should be made. Lace teaches an Electromagnetic Musical Pickup Having U-shaped Ferromagnetic Core. Lace teaches a core "on which two non-magnetic coil forms 442A and 442B, usually plastic, are mounted" (Col.7, Lines 15-16). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Ho in view of Kalsi et al. and make a coil form from non-magnetic plastic material, because it will not introduce an extra inductance that may produce unwanted noise.

Ho, Kalsi et al. and Lace did not disclose a material from which bifilar coil windings are made. Kropielicki et al. teaches a Coil Construction. Kropielicki et al. teaches a bifilar coil construction comprising two separate windings

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(Fig.1, Pos. 9 and 10). Each coil is made from copper wire. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a copper wire for coil winding, because copper is a material, which can be easily soldered to a circuitry of the printed board.

Ho, Kalsi et al., Lace and Kropielicki et al. didn't teach a cross-section of copper wire to be used in coil windings.

Kawakami teaches a Vehicle Mounted Motor With Rotor Having Ferrite Magnet Section With Embedded Permanent Magnet Pieces Therein, where "winding (Fig.1, Pos. 105) having a copper wire circular in cross-section" (Col.1, Line 63). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have further modified Ho with teachings of Kawakami and use a copper wire circular in cross-section, because the copper wire circular in cross-section is widely available and therefore less expensive, than other types of copper wires.

Referring to Claims 8, 9, 17 and 18, Ho disclosed that the device "is coated with a covering layer 4 having protection effect to avoid smoke or fire when the resistance coil 2 blows" (paragraph 17).

8. Claims 3 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ho (US Patent Application US



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2003/0102947 filed 12/05/2001, published 06/05/2003) in view of Kalsi et al. (6,275,365), Kropielicki et al. (5,835,066), Lace (5,391,831) and Kawakami (5,986,374), as applied to claims 1 and 10 above, and further in view of Zaleski (3,845,417). Ho, Kalsi et al., Kropielicki et al. (5,835,066), Lace (5,391,831) and Kawakami (5,986,374) did not disclose a winding wherein a plurality of turns is spaced apart for mutual isolation. Zaleski teaches a Gyromagnetic Circuit Element wherein "the coil was wound with No. 40 bare wire with the turns spaced apart by approximately 0.003 inches"(Col.3, Lines 35-37). Applicant does not provide any significant reason for using uninsulated wire for windings of the coil, but if for any design considerations it is preferable it would have been obvious to one of ordinary skill in the art at the time the invention was made to have spaced turn of the windings apart, because it will prevent shorting of adjacent loops in the coil.

9. Claims 6-7 and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ho (US Patent Application US 2003/0102947 filed 12/05/2001, published 06/05/2003) in view of Kalsi et al. (6,275,365), Kropielicki et al. (5,835,066), Lace (5,391,831) and Kawakami (5,986,374), as applied to claims 1 and 10 above, and further in view of Lorenzen (4,821,152). Ho, Kalsi et al. Kropielicki et al. (5,835,066), Lace (5,391,831) and

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Kawakami (5,986,374) did not disclose use of wire ends or terminal pins to be soldered into a printed circuit board.

Lorenzen teaches a Method And Device For Mounting Electrical Components On A Circuit Board. Lorenzen describes In Background Of The Invention section Lorenzen describes conventional method of mounting electronic components on a printed circuit board "if transformers, anti-interference coils or capacitors have to be arranged, it is necessary to connect soldering pins with the normally relatively thin connection wires of the windings of a transformer or of a coil. These pins are then seated in suitable recesses of the housing extending towards the circuit boards a length sufficient to ensure that during mounting of the housing, the soldering pins can be passed through suitable bores in the circuit board to enable them to be soldered on the reverse side, i.e. on the conductor side of the circuit board. Although it is sometimes possible to do without such separate soldering pins, namely when the connection wires are relatively thick"(Col.2, lines 45-58). In other words an electronic component may be attached to a circuit board directly by soldering its wire (if wire is thick enough) or through termination pins specially inserted and soldered to a surface of the circuit board. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use

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teachings of Lorenzen and connect coil to the circuit board by soldering wire end or through termination pins and solder the wire to printed board or termination point at point of a connection (soldering point), because it is known method provide reliable connection between the circuit board and component.

### **Contact information**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Boris Benenson whose telephone number is (571) 272-2048. The examiner can normally be reached on M-F (8:20-6:00) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571) 272-2800 ext 36. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

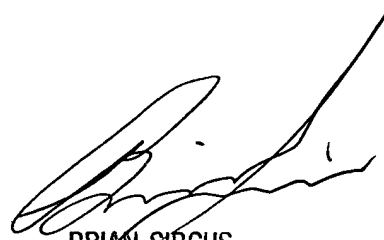
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on

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access to the Private PAIR system, contact the Electronic  
Business Center (EBC) at 866-217-9197 (toll-free).

Boris Benenson  
Examiner  
Art Unit 2836

B.B.

A handwritten signature in black ink, appearing to read "Brian Sircus", written over a horizontal line.

**BRIAN SIRCUS**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2800**